



2879

In re Application of:

Docket No. 03500.014023.

TAMAKI KOBAYASHI ET AL.

Application No.: 09/440,535

Examiner: A. Patel

Filed: November 16, 1999

Group Art Unit: 2879

For: SUBSTRATE FOR ELECTRON SOURCE,
ELECTRON SOURCE AND IMAGE FORMING
APPARATUS, AND MANUFACTURING METHOD
THEREOF

Date: April 14, 2003

THE COMMISSIONER FOR PATENTS
Washington, D.C. 20231

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TECHNOLOGY CENTER 2800

Sir:

Transmitted herewith is an amendment in the above-identified application.

☒ No additional fee is required.

The fee has been calculated as shown below

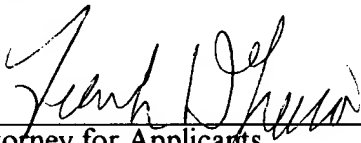
CLAIMS AS AMENDED						
	(2) CLAIMS REMAINING AFTER AMENDMENT		(4) HIGHEST NO. PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	RATE	ADDITIONAL FEE
TOTAL CLAIMS	* 184	MINUS	** 184	0	x \$9 \$18	0
INDEP. CLAIMS	* 2	MINUS	*** 3	0	x \$42 \$84	0
Fee for Multiple Dependent claims \$140°/\$280						0
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT---						0

- * If the entry in Column 2 is less than the entry in Column 4, write "0" in Column 5.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, write "3" in this space.

☐ °Verified Statement claiming small entity status is enclosed, if not filed previously.☒ A check in the amount of \$_____ is enclosed.☐ Charge \$_____ to Deposit Account No. 06-1205. A duplicate copy of this sheet is enclosed.

- ☒ Any prior general authorization to charge an issue fee under 37 C.F.R. 1.18 to Deposit Account No. 06-1205 is hereby revoked. The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. 1.16 and 1.17 which may be required during the entire pendency of this application, or to credit any overpayment, to Deposit Account No. 06-1205. A duplicate copy of this paper is enclosed.
- ☐ A check in the amount of \$_____ to cover the fee for a _____ month extension is enclosed.
- ☐ A check in the amount of \$_____ to cover the Information Disclosure Statement fee is enclosed.
- ☒ Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



Attorney for Applicants
Registration No. 92,476

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

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03500.014023



Q # 16 / Response
4.24.03

PATENT APPLICATION C. Moore

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)
: Examiner: A. Patel
TAMAKI KOBAYASHI ET AL.)
: Group Art Unit: 2879
Application No.: 09/440,535)
: Filed: November 16, 1999)
: For: SUBSTRATE FOR ELECTRON)
: SOURCE, ELECTRON SOURCE)
: AND IMAGE FORMING APPARA-)
: TUS, AND MANUFACTURING)
: METHOD THEREOF) April 14, 2002

Commissioner For Patents
Washington, D.C. 20231

RESPONSE TO OFFICE ACTION
AND
REQUEST FOR INITIALED FORM PTO-1449

RECEIVED
APR 21 2003
TECHNOLOGY CENTER 2800

Sir:

This Response To Office Action is filed in response to the Office Action

(Paper No. 15) of January 13, 2003.

I hereby certify that this correspondence is being deposited with the United States Postal Service as first-class mail in an envelope addressed to: Commissioner for Patents, Washington, D.C. 20231 on April 14, 2003.

(Date of Deposit)

FRANK A. DeLUCIA (Reg. #42,476)

(Name of Attorney for Applicant)

Signature

April 14, 2003

Date of Signature

This application has been reviewed in light of the Office Action dated January 13, 2003. Claims 1-5, 10-22 and 32-61 are pending.¹ Claims 1 and 32 are in independent form. Favorable consideration is requested.

Paragraph 5 of the Office Action states that "Claims 1, 2, (10-22)/(1, 2), 32, 33, and (41-44)/(32, 33) are rejected under 35 U.S.C. 102 (a or b or e, depending upon effective filing date) as being anticipated by" European Patent Application EP 0 850 892 A1 (Nishimura et al.). Paragraph 6 of the Office Action states that "Claims 1, 2, (10-22)/(1,2), 32, 33, and (41-44)/(32, 33) are rejected under 35 U.S.C. 102 (a or b or e - depending upon effective filing date-) as being clearly anticipated by" European Patent Application EP 0 865 931 A1 (Miyamoto et al.). Paragraph 8 of the Office Action states that "Claims 3-5, (10-19)/3-5, 34-36 and (41-44)/(34-36) are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishimura et al (or Miyamoto et al, applied individually), as above."

Initially, as was explained clearly and explicitly in the Amendment filed on May 14, 2002, neither Nishimura et al. nor Miyamoto et al. is believed to qualify as a reference under 35 U.S.C. § 102(e) against the claims of the present application. Section 102(e) recites:

(e) [A person shall be entitled to a patent unless] the invention was described in—the invention was described in—

- (1) an application for patent, published under section 122(b), by another *filed in the United States* before the invention by the applicant for patent, or

¹/ The Office Action states that 'claim(s) 37-39, (41-44)/(37-39) and 45-61" are withdrawn from consideration. Page 2 of the Office Action states that "claims 37-40 and (41-44)/(37-40) are withdrawn . . . from consideration . . . [as are] claims 45-61."

- (2) a patent granted on an application for patent by another *filed in the United States* before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application *designated the United States* and was published under Article 21(2) of such treaty in the English language (Emphasis added).

In the instant case, Nishimura et al. and Miyamoto et al. both are published versions of applications filed in the European Patent Office. Although those European Patent Applications were published in the English language, those applications were neither applied for in the United States nor published under Section 122(b). Neither are Nishimura et al. and Miyamoto et al. international applications published under Article 21(2), filed under Section 351(a), and designating the United States, or patents granted on respective applications filed in the United States. For these reasons, it is believed that neither Nishimura et al. nor Miyamoto et al. qualifies as a reference under 35 U.S.C. § 102(e) against the claims of the present application, and thus the withdrawal of the Section 102(e) rejections set forth in the Office Action is respectfully requested.

If the Examiner does not agree to withdraw those rejections in view of the foregoing comments, he is respectfully requested to explain how Nishimura et al. and Miyamoto et al. can qualify as references under 35 U.S.C. § 102(e), when they are published European Patent Applications.

Applicant now offer the following comments with regard to the remaining rejections set forth in the Office Action. In accordance with an aspect of the invention to which Claim 1 relates, a substrate structure is provided which is a precursor to an electron-emitting device. An electron-emitting device is to be disposed on the substrate structure.

Thus, this aspect of the invention is not directed to an electron-emitting device per se that includes a substrate structure and an electron-emitting device.

Independent Claim 1 is directed to a substrate structure which is a precursor to an electron source, and on which an electron emission device of the electron source is to be disposed, the electron emission device including at least a conductive film. The substrate structure comprises a substrate containing Na, a first layer containing SiO_2 as a main component formed directly or indirectly on the substrate, and a second layer containing an electron conductive oxide formed directly or indirectly on the substrate. The first and second layers are disposed adjacent a side of the substrate where the electron emission device is to be disposed.

Nishimura et al. refers to an electron source comprising an electron-emitting device having a substrate 1, a pair of device electrodes 2 and 3, an electroconductive film 4, and an electron-emitting region 5. Reference numeral 6 denotes a “de-sodiumized” layer, a sodium-capturing layer, a multilayer structure combining the two, or a de-sulfurized layer.

The substrate 1 comprises sodium. The Office Actions asserts that Nishimura et al.

“disclose applicant’s claimed image forming device . . . including . . . a second layer containing electron conductive oxide (4), and a pair of electrodes (2, 3) formed on the substrate.” However, the “second layer containing electron conductive oxide (4)” and “pair of electrodes (2, 3)” are merely elements constituting an electron-emitting device.

Moreover, a substrate structure of Nishimura et al. is formed by merely the substrate (1) and the layer (6), rather than by a substrate and the first and second layers defined in Claim 1.

Similarly, Miyamoto et al. refers to an electron-emitting element wherein a titanium oxide film 6 is sputtered on a soda lime glass substrate 1. A Pt film is deposited by a vacuum deposition process. The photoresist pattern is dissolved in an organic solvent to lift off the deposited film, thereby forming electrodes 2 and 3 with a gap therebetween (see, e.g., page 21, Step a). An electron source of Miyamoto et al. also comprises an electron-emitting device having a conductive layer 4 and a pair of electrodes 2, 3, and a substrate structure having a substrate 1 and a single layer 6 (rather than first and second layers as defined in Claim 1). The Office Action asserts that Miyamoto et al. "disclose applicant's claimed image forming device including . . . an electron conductive oxide layer (2, 3) or layer 4)." However, the elements 2, 3, and 4 of Miyamoto et al. are components of an electron-emitting device (element).

As was clearly and explicitly pointed out in the Remarks section of the Amendment filed on May 14, 2002, Applicants respectfully submit that nothing in either Nishimura et al. nor Miyamoto et al. would teach or suggest a substrate structure which is a precursor to an electron source, and on which an electron emission device of the electron source is to be disposed, wherein the substrate structure comprises a substrate containing Na, a first layer containing SiO₂ as a main component formed directly or indirectly on the substrate, and a second layer containing an electron conductive oxide formed directly or indirectly on the substrate, wherein the first and second layers are disposed adjacent a side of the substrate where the electron emission device is to be disposed, as recited in Claim 1. Indeed, in contradistinction to the substrate structure of Claim 1, the Miyamoto et al. and Nishimura et al. substrate structures are formed merely by the substrate 1 and layer 6.

For at least these reasons, Claim 1 is deemed clearly patentable over Nishimura et al. and Miyamoto et al., whether considered separately or in combination.

If the Examiner still is not persuaded to remove the Section 102(a) and 102(b) rejections of Claim 1 in view of the foregoing comments, he is respectfully requested to explain which portions of Nishimura et al. and Miyamoto et al. he believes teaches a substrate structure which is a *precursor to an electron source*, and which comprises a substrate containing Na, a first layer containing SiO₂, and a second layer containing an electron conductive oxide.

Independent Claim 32 recites subject matter that is similar in many relevant respects to that recited in Claim 1, and also is believed clearly patentable over those references for substantially the same reasons as is Claim 1.

A review of the other art of record has failed to reveal anything which, in Applicants' opinion, would remedy the deficiencies of the art discussed above, as references against the independent claims herein. Those claims are therefore believed patentable over the art of record.

The other claims in this application are each dependent from one or another of the independent claims discussed above and are therefore believed patentable for the same reasons. Since each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

REQUEST FOR INITIALED FORM PTO-1449

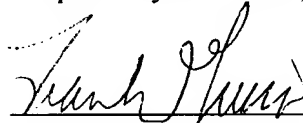
Applicants have received another initialed Form PTO 1449 (copy enclosed) confirming that the Examiner considered and made of record all of the art cited in the Information Disclosure Statement filed on May 11, 2000, except for U.S. Patent 4,954,744 cited therein, which still has not been initialed by the Examiner, even though paragraph 1 of the Office Action states that the patent has been considered. Accordingly, Applicants again respectfully request (for the third time) that the Examiner issue an initialed Form PTO-1449 confirming that U.S. Patent 4,954,744 has been considered and made of record in this application.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants respectfully request favorable reconsideration and early passage to issue of the present application.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



Attorney for Applicants

Registration No. 42,476

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-3801
Facsimile: (212) 218-2200

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